

Amendments to the Claims:

Please amend claims 1, 13, 14, and 26, and add new claims 68 and 69. Following is a complete listing of the claims pending in the application, as amended:

1. (Currently amended) A method for processing a microelectronic device, comprising:

fabricating a plurality of dies ~~on~~at an active side of a microelectronic workpiece, the dies having integrated circuitry and bond-pads coupled to the integrated circuitry;

constructing a redistribution assembly ~~on~~at the active side of the workpiece before separating the dies by depositing a dielectric layer over the dies and forming conductive elements having traces connected to corresponding bond-pads on the dies and ball-pads arranged in ball-pad arrays;

covering a backside of the workpiece with a protective material in a flowable state; and

curing the protective material to create a protective layer on the backside of the workpiece.

2. (Original) The method of claim 1, further comprising:

attaching a plurality of solder balls to the ball-pads; and

covering the dielectric layer with an active side protective film that surrounds at least a portion of the solder balls.

3. (Original) The method of claim 1 wherein covering the backside of the workpiece comprises stencil printing the material onto the backside of the workpiece.

4. (Original) The method of claim 1 wherein covering the backside of the workpiece comprises spraying the material onto the backside of the workpiece.

5. (Original) The method of claim 1 wherein covering the backside of the workpiece comprises spin coating the material onto the backside of the workpiece.

6. (Original) The method of claim 1 wherein covering the backside of the workpiece comprises applying the material onto the backside of the workpiece in a dip bath.

7. (Original) The method of claim 1 wherein curing the material comprises heating the material in an environment at a temperature of approximately 50°C to 500°C for approximately 15-150 minutes.

8. (Original) The method of claim 1 wherein curing the material comprises heating the material in an environment at a temperature of approximately 150°C to 250°C for approximately 15-120 minutes.

9. (Original) The method of claim 1 wherein curing the material comprises heating the material in an environment at a temperature of approximately 150°C for approximately 120 minutes.

10. (Original) The method of claim 1 wherein curing the material comprises heating the material in an environment at a temperature of approximately 200°C for approximately 15 minutes.

11. (Original) The method of claim 1 wherein curing the material comprises heating the material in an environment at a temperature of approximately 250°C for approximately 60 minutes.

12. (Original) The method of claim 1 wherein the material is a polyimide, epoxy-based, and/or modified silicone material.

13. (Currently amended) A method for protecting a microelectronic device, comprising:

providing a microelectronic workpiece having an active side, a backside, and a plurality of dies ~~on~~at the active side of the workpiece, wherein the dies include integrated circuitry and bond-pads coupled to the integrated circuitry;

covering the backside of the workpiece with a coating of protective material in a flowable state; and

changing the protective material to a non-flowable state.

14. (Currently amended) The method of claim 13, further comprising:

providing a redistribution assembly ~~on~~at the active side of the workpiece, the redistribution assembly having a dielectric layer over the dies, ball-pads arranged in ball-pad arrays corresponding to the dies, and traces coupling the bond-pads of a die to the ball-pads of a corresponding ball-pad array;

attaching a plurality of solder balls to the ball-pads; and

covering the dielectric layer with a protective film that surrounds at least a portion of the solder balls.

15. (Original) The method of claim 13 wherein covering the backside of the workpiece comprises stencil printing the material onto the backside of the workpiece.

16. (Original) The method of claim 13 wherein covering the backside of the workpiece comprises spraying the material onto the backside of the workpiece.

17. (Original) The method of claim 13 wherein covering the backside of the workpiece comprises spin coating the material onto the backside of the workpiece.

18. (Original) The method of claim 13 wherein covering the backside of the workpiece comprises applying the material onto the backside of the workpiece in a dip bath.

19. (Original) The method of claim 13 wherein changing the protective material to a non-flowable state comprises curing the material by heating the material in an environment at a temperature of approximately 50°C to 500°C for approximately 15-150 minutes.

20. (Original) The method of claim 13 wherein changing the protective material to a non-flowable state comprises curing the material by heating the material in an environment at a temperature of approximately 150°C to 250°C for approximately 15-120 minutes.

21. (Original) The method of claim 13 wherein changing the protective material to a non-flowable state comprises curing the material by heating the material in an environment at a temperature of approximately 150°C for approximately 120 minutes.

22. (Original) The method of claim 13 wherein changing the protective material to a non-flowable state comprises curing the material by heating the material in an environment at a temperature of approximately 200°C for approximately 15 minutes.

23. (Original) The method of claim 13 wherein changing the protective material to a non-flowable state comprises curing the material by heating the material in an environment at a temperature of approximately 250°C for approximately 60 minutes.

24. (Original) The method of claim 13 wherein changing the protective material to a non-flowable state comprises curing the material using rapid thermal processing.

25. (Original) The method of claim 13 wherein the material is a polyimide, epoxy-based, and/or modified silicone material.

26. (Currently amended) A method for fabricating a microelectronic device, comprising:

providing a microelectronic workpiece having an active side and a backside, the microelectronic workpiece having a plurality of dies ~~on~~at the active side, the dies including integrated circuitry and bond-pads coupled to the integrated circuitry;

fabricating a redistribution layer before separating the dies from each other, the redistribution layer having a dielectric layer over the dies, ball-pads arranged in ball-pad arrays corresponding to the dies, and traces coupling the bond-pads of a die to the ball-pads of a corresponding ball-pad array;

covering the backside of the workpiece with a protective material in a flowable state; and

curing the protective material to create a protective layer on the backside of the workpiece without depositing a layer of tape over the protective material.

27. (Original) The method of claim 26, further comprising:

attaching a plurality of solder balls to the ball-pads; and

covering the dielectric layer with a protective film that surrounds at least a portion of the solder balls.

28. (Original) The method of claim 26 wherein covering the backside of the workpiece comprises stencil printing the material onto the backside of the workpiece.

29. (Original) The method of claim 26 wherein covering the backside of the workpiece comprises spraying the material onto the backside of the workpiece.

30. (Original) The method of claim 26 wherein covering the backside of the workpiece comprises spin coating the material onto the backside of the workpiece.

31. (Original) The method of claim 26 wherein covering the backside of the workpiece comprises applying the material onto the backside of the workpiece in a dip bath.

32. (Original) The method of claim 26 wherein curing the material comprises heating the material in an environment at a temperature of approximately 50°C to 500°C for approximately 15-150 minutes.

33. (Original) The method of claim 26 wherein curing the material comprises heating the material in an environment at a temperature of approximately 150°C to 250°C for approximately 15-120 minutes.

34. (Original) The method of claim 26 wherein curing the material comprises heating the material in an environment at a temperature of approximately 150°C for approximately 120 minutes.

35. (Original) The method of claim 26 wherein curing the material comprises heating the material in an environment at a temperature of approximately 200°C for approximately 15 minutes.

36. (Original) The method of claim 26 wherein curing the material comprises heating the material in an environment at a temperature of approximately 250°C for approximately 60 minutes.

37. (Original) The method of claim 26 wherein curing the material comprises changing the material from a flowable state to a non-flowable state using rapid thermal processing.

38. (Original) The method of claim 26 wherein the material is a polyimide, epoxy-based, and/or modified silicone material.

39-67. (Cancelled)

68. (New) The method of claim 1 wherein curing the protective material to create a protective layer includes curing the protective material without depositing a layer of tape over the protective material.

69. (New) The method of claim 13 wherein changing the protective material to a non-flowable state does not include depositing a layer of tape over the protective material.